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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/060,826	02/01/2002	Daniel S. Pickard	IB-1581	9952

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LAWRENCE BERKELEY NATIONAL LABORATORY
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EXAMINER

LEE, WILSON

ART UNIT	PAPER NUMBER
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2163

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/060,826

Applicant(s)

PICKARD ET AL.

Examiner

Wilson Lee

Art Unit

2163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-5, 8-10 and 12-24 is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections – 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clorfeine (3,909,740) in view of Goodman et al. (6,887,339).

Regarding Claim 1, Clorefine discloses a matching network for coupling an RF power supply to an RF antenna (microwave energy) (See Cols. 4-7) in a plasma generator comprising:

- a resonantly tunable circuit formed of a variable capacitor (Co) and inductor (Lo) in a series resonance configuration;
- a transformer (78), said resonantly tunable circuit being connected to one end of a winding of the transformer (See Figure 3).

As discussed above, Clorefine essentially discloses the claimed invention but does not explicitly disclose a ferrite transformer. However, Goodman teaches that a ferrite transformer is advantageous because it provides isolation to ground (See Col. 11, lines 36-44). It would have been obvious to one of ordinary skill in the art to use a ferrite transformer as a transformer in Clorefine in order to attain the advantageous isolation as taught by Goodman.

Regarding Claim 2, Clorefine discloses that the transformer comprises a secondary winding which couples the transformer to the tunable circuit and a primary winding (See Figure 3).

Claims 1, 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clorfeine (3,909,740) in view of Ogle (4,948,458)

Regarding Claim 1, Clorefine discloses a matching network for coupling an RF power supply to an RF antenna (microwave energy) (See Cols. 4-7) in a plasma generator comprising:

- a resonantly tunable circuit formed of a variable capacitor (Co) and inductor (Lo) in a series resonance configuration;
- a transformer (78), said resonantly tunable circuit being connected to one end of a winding of the transformer (See Figure 3).

As discussed above, Clorefine essentially discloses the claimed invention but does not explicitly disclose a ferrite transformer. However, Ogle teaches that ferrite magnetic core to enhance transformer coupling between a primary winding a secondary turn (See Col. 2, lines 13-27). It would have been obvious to one of ordinary skill in the art to use a ferrite magnetic core transformer as a transformer in Clorefine in order to enhance transformer coupling between a primary winding a secondary turn as taught by Ogle.

Regarding Claim 2, Clorefine discloses that the transformer comprises a secondary winding which couples the transformer to the tunable circuit and a primary winding (See Figure 3).

Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bialko et al. (4,131,533) in view of Goodman et al. (6,887,339).

Regarding Claim 1, Bialko discloses a matching network for coupling an RF power supply to an RF antenna (RF sputtering) (See Cols. 3-6) in a plasma generator comprising:

- a resonantly tunable circuit formed of a variable capacitor (21) and inductor (42) in a series resonance configuration;
- a transformer (52), said resonantly tunable circuit being connected to one end of a winding of the transformer (See Figure 1).

As discussed above, Bialko essentially discloses the claimed invention but does not explicitly disclose a ferrite transformer. However, Goodman teaches that a ferrite transformer is advantageous because it provides isolation to ground (See Col. 11, lines 36-44). It would have been obvious to one of ordinary skill in the art to use a ferrite transformer as a transformer in Bialko in order to attain the advantageous isolation as taught by Goodman.

Regarding Claim 2, Bialko discloses that the transformer inherently comprises a secondary winding which couples the transformer to the tunable circuit and a primary winding because every transformer must have primary and secondary windings.

Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bialko et al. (4,131,533) in view of Ogle (4,948,458)

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Regarding Claim 1, Bialko discloses a matching network for coupling an RF power supply to an RF antenna (RF sputtering) (See Cols. 3-6) in a plasma generator comprising:

- a resonantly tunable circuit formed of a variable capacitor (21) and inductor (42) in a series resonance configuration;
- a transformer (52), said resonantly tunable circuit being connected to one end of a winding of the transformer (See Figure 1).

As discussed above, Bialko essentially discloses the claimed invention but does not explicitly disclose a ferrite transformer. However, Ogle teaches that ferrite magnetic core to enhance transformer coupling between a primary winding a secondary turn (See Col. 2, lines 13-27). It would have been obvious to one of ordinary skill in the art to use a ferrite magnetic core transformer as a transformer in Bialko in order to enhance transformer coupling between a primary winding a secondary turn as taught by Ogle.

Regarding Claim 2, Bialko discloses that the transformer inherently comprises a secondary winding which couples the transformer to the tunable circuit and a primary winding because every transformer must have primary and secondary windings.

Allowable subject matter

Claims 3-5, 8-10, 12-24 are allowed.

Claims 6, 7, 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Remarks

Applicant's arguments with respect to claims 1, 2, 12, 13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Qin discloses ferrite core is a common transformer core.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Wilson Lee whose telephone number is (571) 272-1824.

Papers related to the application may be submitted by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The official fax number is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Wilson Lee', is written over a horizontal line.

Wilson Lee
Primary Examiner
U.S. Patent & Trademark Office

3/4/07